



NORTH ATLANTIC

RESOLVER/SYNCHRO BRIDGES

SERIES 540

FEATURES/

- * Single Unit
for Resolvers and Synchros
- * Accuracy 2 Seconds
- * Resolution 0.0001°
- * Constant Null Voltage Gradient



DESCRIPTION/

The Series 540 Resolver/Synchro Bridges provide in a single compact 3-1/2" rack-mounted instrument, the means for measuring directly the angular shaft position of both three-wire synchros and four-wire resolvers to an accuracy of 2 seconds of arc. In addition to its dual mode capability, the Series 540 will accommodate synchros and resolvers operating at any of the standard voltages, such as 115/90 or 26/11.8 vac. Their high input impedance and ability to measure synchros and resolvers either as components, or as elements of operating systems, permit them to be used with equal accuracy in the laboratory, on the production line, or in ground checkout systems.

Accuracy of 2 seconds for all angular positions is achieved through use of a unique bridge, developed at North Atlantic for this application. Null voltage gradient is constant over the entire range of angle, permitting use of the instrument for rapid deviation measurements on the production line or in systems evaluation.

The Series 540 is designed for full accuracy at any frequency from 400 γ to 1600 γ and is useful over the extended band of 50 γ to 10kc with somewhat reduced accuracy. Both input and output are isolated to provide high common mode rejection and to permit the use of any North Atlantic Phase Angle Voltmeter as the null indicator.

Models within the Series 540 include the 7-digit, $.0001^\circ$ resolution (5 knobs) full-rack model illustrated above. Also available as standard versions are both full-rack and half-rack units which are 3-digit, 1° resolution (2 knobs) and 3-digit, 5° resolution (single knob). All models have in-line display for angular decimal readout and are continuously switched through 360° .



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Instrumentation and Control Systems

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SPECIFICATIONS/

Voltage (L-L)		0.8f volts (f in cps) 150v rms max.	
Frequency Range (within accuracy)		400 ν to 1600 ν	
Frequency Range (useful)*		50 ν to 10kc	
Nominal Input Impedance (at 400 cps)		Synchro Mode: 500K	
		Resolver Mode: 750K	
Accuracy		2 seconds of arc	
Resolution (depending upon model)		.0001°, 7 digit	
		1°, 3 digit	
		5°, 3 digit	
Null Voltage Gradient		μ v/sec = 0.55 (L-L volts)	
		μ v/0.001° = 2.0 (L-L volts)	
Size	.0001° Model (5 knob)	19"w	3-1/2" panel x 15-1/8"d
	1° Models (2 knob)	9-1/2"w	
		19"w	
	5° Models (1 knob)	9-1/2"w	
		19"w	
Weight		28 lbs. max.	
Price		.0001° \$2680.00	
		1° \$1780.00	
		5° \$1480.00	

*North Atlantic can provide high accuracy Resolver/Synchro Bridges for other frequency bands beyond the 400 ν to 1600 ν range. Contact factory for technical information.

RELATED EQUIPMENT FOR RESOLVER AND SYNCHRO TESTING/

North Atlantic offers a complete line of compatible instruments for use with the Series 540 in laboratory, production and field measurement of resolvers and synchros. Refer to bulletins on Phase Angle Voltmeters, AC Ratio Boxes, and Angle Position Indicators.

APPLICATION DATA/

Technical Bulletin #106, "Automatic Checkout of Rotary Components"
Technical Bulletin #107, "Modern Methods of Evaluating Synchro and Resolver Components"

Patent Pending
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